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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,320	06/02/2007	Akira Tsuboi	107348-00603	9440

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EXAMINER	
DODD, RYAN P	
ART UNIT	PAPER NUMBER
3655	

NOTIFICATION DATE	DELIVERY MODE
03/11/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/591,320	TSUBOI ET AL.	
	Examiner	Art Unit	
	RYAN DODD	3655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 December 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 August 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This is the fourth office action on the merits for Application Serial Number 10591320, which is a National Stage/371 of PCT/JP04/02737.

This action is in response to the amendment received 30 December 2010. Applicant's remarks have been received, entered, and are being considered by Examiner. Claims 13-18 have been added. **Claims 1-18** are currently pending.

Claim Objections

Claim 1 is objected to because of the following informalities: "which is are" in line 12 should be "which are".

Claim 4 is objected to because of the following informalities: "there Is" in line 2 should be "there is".

Claim 16 is objected to because of the following informalities: "is Smaller" in line 2 should be "is smaller".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

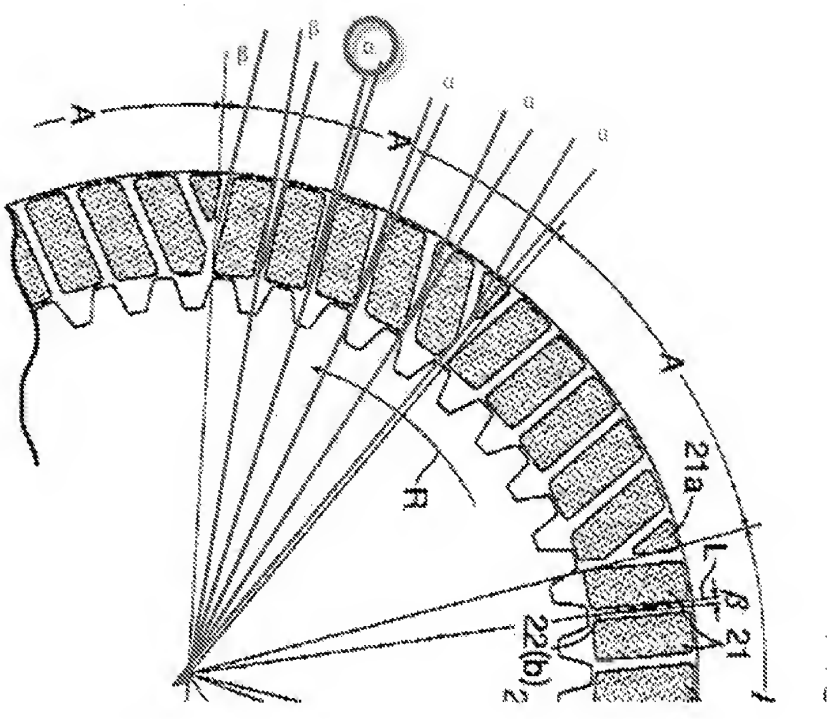
Claims 4-9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which

was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

As to **claims 4-6**, the limitation: "wherein the discharge angle (β) is equal to the inflow angle (α)", may be interpreted to mean that every angle (β), formed by a radial line (L) of the friction plate passing through and inner end of the discharge oil channel itself (claim 1, lines 11-12), of which there are many (see figure below), is equal to every angle (α), of which there are multiple. Although there are particular angles (β) that may be equal to particular angles (α), the interpretation herein presented is not enabled in such a way as to enable one skilled in the art to make the invention, because every angle (β) is not equal to every angle (α).

Similarly, As to **claims 7-9**, the limitation: "wherein the discharge angle (β) is less than the inflow angle (α)", may be interpreted to mean that every angle (β), formed by a radial line (L) of the friction plate passing through and inner end of the discharge oil channel itself (claim 1, lines 11-12), of which there are many (see figure below), is less than every angle (α), of which there are multiple (see figure below). Although there are particular angles (β) that may be less than particular angles (α), the interpretation herein presented is not enabled in such a way as to enable one skilled in the art to make the invention, because every angle (β) is not less than every angle (α).

For additional explanation, please see the 112(2) rejection below, newly explained in this office action to hopefully facilitate understanding, albeit same rejection.



The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 defines the discharge angle (β) inflow angle (α) to be variables that may represent different values. For instance, a discharge channel, has discharge angle (β) relative to a radial line (L) of the friction plate passing through an inner end of the discharge oil channel itself (claim 1, lines 10-11). A discharge channel is defined as a

discharge channel because its discharge angle inclines rearward (defined a counterclockwise by Applicant) relative to the radial line L (claim 1, lines 20-21).

On the other hand, an inflow channel is defined as an inflow channel because its inflow angle inclines forward (defined as clockwise by Applicant) relative to the radial line L (claim 1, lines 20-21). An inflow channel has an inflow angle (α) relative to a radial line (L) of the friction plate passing through an inner end of the inflow oil channel itself (claim 1, lines 15-17).

As will be appreciated by Applicant, for instance, in reference to Applicant's Fig. 2, what is defined as a discharge angle actually reduces in value as the channels are counted from left to right in any given section. The middle channel potentially has a zero angle value and therefore could not be classified as either an inflow or a discharge angle. Even still, there are at least two discharge channels, each having different discharge angles, and two inflow channels, each having different inflow angles. Therefore regarding **claim 4**, to say that ***the*** discharge angle is equal to ***the*** inflow angle, is incorrect and indefinite.

Even regarding Applicant's 2nd and 3rd embodiments of Figs. 3 and 4, there exists at least either multiple discharge channels or multiple inflow channels and so it is likewise incorrect and indefinite to refer to either ***the*** discharge angle or ***the*** inflow angle. Therefore **claims 5-9** are likewise indefinite.

Please see also Response to Arguments below.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

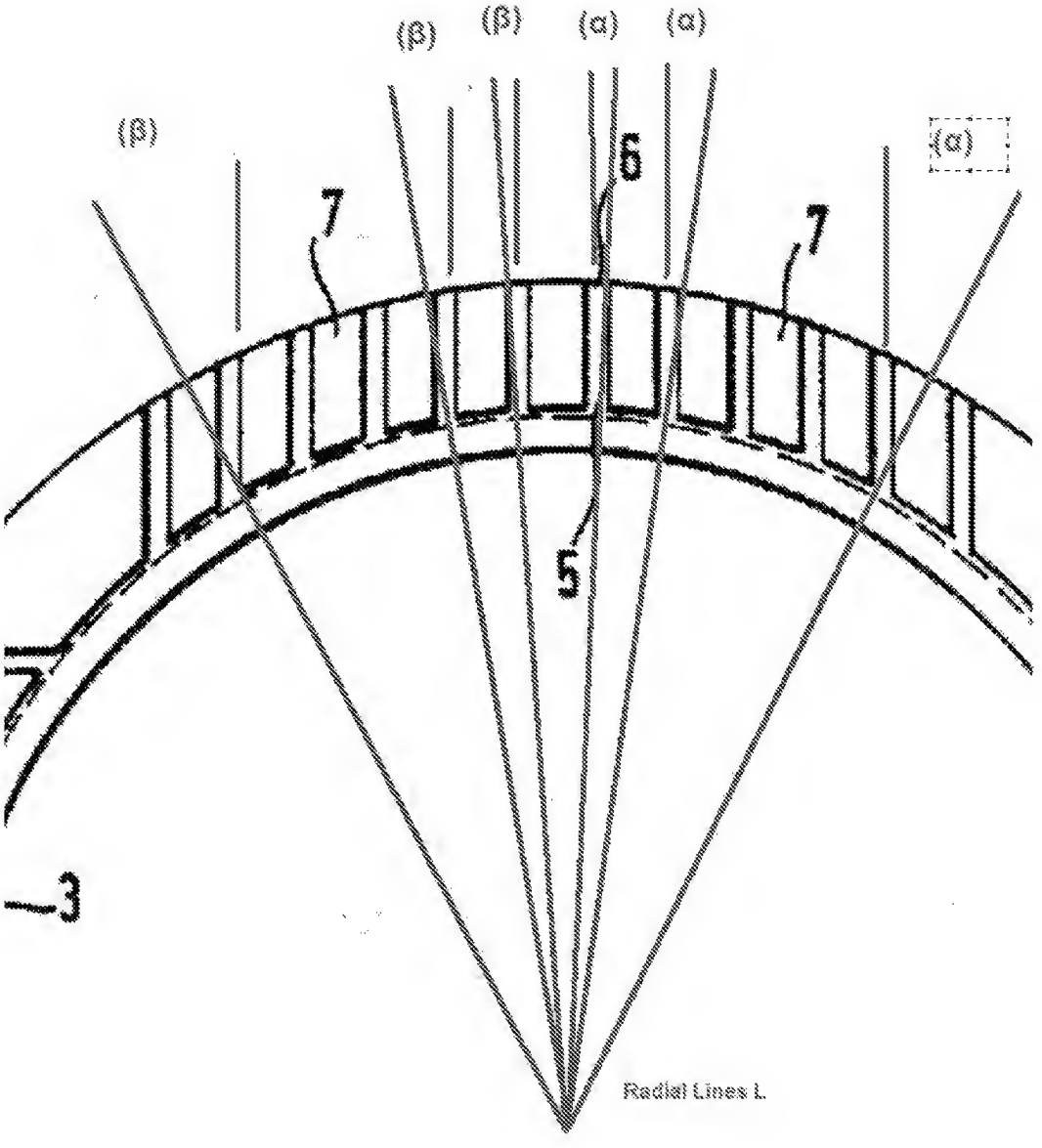
Claims 1-9, and 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Bauer 4878282 (henceforth Bauer '282).

Bauer '282 discloses:

- A wet clutch friction plate (at least friction lining 3) for use with a clutch plate (although Bauer '282 does not disclose a clutch plate, its friction plate is fully capable of being used with a clutch plate), the friction plate comprising:
- A core plate (supporting plate 1, column 1, lines 9, 16, 19).
- friction material (friction lining 3) bonded to a side face of the core plate,
- and disposed between the clutch plate and the core plate (this orientation is inherent in a clutch and core plate with friction material as disclosed in Bauer '282, see also response to arguments).
- wherein a plurality of oil channels (oil grooves 4) are defined in the friction material and provide communication between inner and outer peripheral edges of the friction material,
- wherein the plurality of oil channels include a plurality of discharge oil channels having a discharge angle (β) relative to a radial line (L) of the friction plate and which are configured to discharge oil from an inner peripheral side to an outer

peripheral side of the friction plate due to a screw pump action that occurs when the friction plate rotates relative to the clutch plate (see Fig. 2, and figure below), and

- the plurality of oil channels further include a plurality of inflow oil channels having an inflow angle (α) relative to the radial line (L) of the friction plate and which are configured to draw oil in from the outer peripheral side to the inner peripheral side of the friction plate due to the screw pump action that occurs when the friction plate rotates relative to the clutch plate (see Fig. 2 and figure below), and
- wherein the discharge angle (β) inclines rearward relative to the radial line (L) and the inflow angle (α) inclines forward relative to the radial line (L) (see Fig. 2, and figure below).

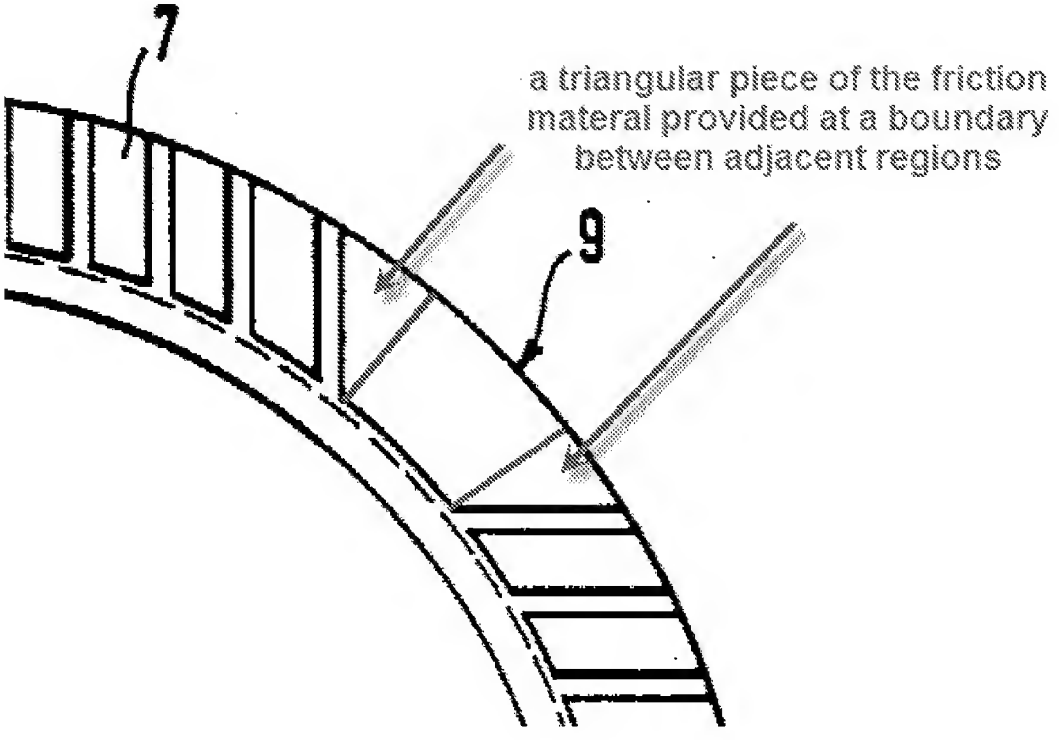


Because the inflow and outflow channels of Bauer ‘282 are arranged in a similar fashion to the present invention as claimed it can be said that the channels of Bauer

'282 will perform in the same manner as the present invention (causing the inflow and discharge of oil). It can also be said that core plates of Bauer '282 and the clutch plate for which it is made to rotate relative to will exhibit a "screw pump action", if that is what applicant's claimed invention will do, because the channels of Bauer '282 are formed in the same way that of the present application.

As to **claim 2**, Bauer '282 discloses that the friction plate is divided into a plurality of regions (A) arranged in the peripheral direction, each region including an equal number of discharge and inflow oil channels (for instance in Fig.3 Bauer '282 implies 4 regions).

As to claim 3, Bauer '282 discloses a triangular piece of the friction material that is provided at a boundary defined between adjacent regions (see figure below).



As to **claims 4-9**, as best understood, at least one discharge angle (β) of Bauer '282 is equal to at least one inflow angle (α), and at least one discharge angle is less than at least one inflow angle, as measured from a radial line L (See Fig.2, and figure above).

As to **claims 11-12**, Bauer '282 discloses:

- wherein the plurality of discharge oil channels are parallel relative to each other, and

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bauer '282 in view of Eltze US Patent 4396100 (henceforth Eltze '100).

Bauer '282 discloses the limitations according to claim 1, but does not disclose a central oil channel in the friction material. However, referring to Fig. 1, Eltze '100 discloses a central oil channel (groove 12) defined in the friction material, the central oil channel being positioned intermediate the discharge oil channels and the inflow oil channels, wherein the central oil channel is disposed along the radial line (L) of the friction plate.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to form a central oil channel, as is known from Eltze '100, into the friction material of Bauer '282 along with the other inflow and discharge channels, in order to modify the lubricating and cooling performance of the friction plate of Bauer '282. Indeed, Eltze '100 also discloses inflow and discharge channels similar to that of Bauer '282 and the present Application, and was only not used as a 102(b) reference

because it does not explicitly disclose that its friction material is mounted on a separate core plate as does Bauer '282.

Allowable Subject Matter

Claims 13-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record, while disclosing the invention of claims 1 and 2, do not provide for the wet clutch friction plate according to claim 2, wherein in each of said regions, the number of discharge oil channels is less than the number of inflow channels. In Bauer '282, because of the particular orientation of its channels, the number of discharge oil channels as defined will be equal to the number of inflow oil channels as defined.

Response to Arguments

With regard to the 102 rejections, Applicant argues, inter alia, that Bauer '282 does not disclose that its friction material bonded to a side face of the core plate and disposed between the clutch plate and the core plate.

While Bauer '282 does not use the words clutch plate, it does disclose that its friction material (3) is bonded to a side face of its core plate (1), and that its friction plate is **for use in clutches** (see column 1, line 22). **One friction plate doth not a clutch**

make. Therefore, Bauer '282 **explicitly** provides for a clutch plate in addition to the core plate with friction lining.

Applicant's argument is likened to that of a patent application for a fork. A fork is only a fork because it picks up food. Therefore, a claim that a new type of fork is patentable because it picks up food does not have merit.

More specifically, to assert that the Bauer '282 reference does not disclose a clutch plate in addition to a core plate with friction material is incorrect, because a clutch with only one friction plate is not a clutch, and **Bauer '282 explicitly discloses both one friction plate and a clutch** (see column 1, line 22).

With regard to the 112 rejections, Applicant argues, inter alia, that Examiner has a notion, that *maybe*, not every discharge angle is equal to each inflow angle relative to radial line L. Examiner has no theoretical notion. Examiner is of the position that given a plurality of oil channels that are disposed circumferentially around a plate, that are **parallel to each other** (see applicant's remarks and specification), and given that a respective angle of the respective channel is measured from a radial line L passing through an inner end of the channel itself (claim 1), adjacent oil channels will have distinct angles that either progressively increase or decrease, **every time**. Please see figures above. If it helps, Examiner urges Applicant to construct his/her own large blown up version of either Applicants figures or Bauer '282's figures if it helps facilitate the visualization process.

In short, geometry is not pure fiction.

Applicant also argues that Examiner is interpreting the feature recited by claims 4-9 in a manner that is inconsistent with the Applicant's disclosure. Examiner disagrees, and is of the position that he is interpreting the features of claim 4, and more importantly claim 1, which is now a part of Applicant's disclosure, as they are currently written, and in fact believes claim 1 to be supported by the specification. If the specification does not comport with claim 1 as Applicant seems to be implying, 112 issues usually result.

To conclude, given the depth of understanding shown by Applicant in describing the present invention in newly recited claims 13-18, Examiner questions whether Applicant's arguments are bona fide.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RYAN DODD whose telephone number is (571)270-1161. The examiner can normally be reached on Monday thru Friday, 9:00A-6:30P, with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Le can be reached on (571)272-7092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David D. Le/ /Ryan Dodd/
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03/08/2011